

## FACT SHEET 3: CONSIDERATION OF OTHER ALTERNATIVES

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### Alternatives Considered

As part of the Environmental Assessment (EA), the Federal Emergency Management Agency (FEMA) considered multiple alternatives based on engineering constraints, environmental impacts, and the purpose and need for the Project. As explained in the EA, Nassau County had initially considered, but ultimately dismissed: Alternative 3, which would extend the current outfall from the South Shore Water Reclamation Facility (previously known as the Bay Park Sewage Treatment Plant), bypass Reynolds Channel, and discharge directly into the Atlantic Ocean; Alternative 4, which would implement a number of technologies at the South Shore Water Reclamation Facility to achieve a total nitrogen limit in the South Shore Water Reclamation Facility effluent of 3 to 5 milligrams per liter; and Alternative 5, which would upgrade the existing South Shore Water Reclamation Facility outfall pipe. The alternatives evaluated in the EA included:

1. No Action Alternative
2. The Proposed Action (The Bay Park Conveyance Project)

The Bay Park Conveyance Project was found to be a more cost-effective solution that could be implemented on a more expedited timeline than the other alternatives.

### Elimination of the Alternative 3 (Bay Park Atlantic Ocean Outfall Alternative)

Alternative 3 would extend the current outfall from South Shore Water Reclamation Facility, bypass Reynolds Channel, and discharge directly into the Atlantic Ocean. Nassau County completed a Planning Study for the Bay Park Atlantic Ocean Outfall in 2015. However, preliminary discussions with the United States Environmental Protection Agency and NYSDEC indicated that obtaining permits for a new ocean outfall would be extremely difficult. Also, the study indicated the Bay Park Atlantic Ocean Outfall would be far more expensive than the proposed Bay Park Conveyance Project. Nassau County determined this alternative to be technically feasible, but the time needed to obtain necessary permits for a new outfall were not aligned with the time sensitive nature of water quality in Long Island's Western Bays, the existing State Pollutant Discharge Elimination System (SPDES) permit requirements, and the 2020 Bay Park Agreement.

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### **Elimination of Alternative 4 (Tertiary Treatment Alternative)**

Alternative 4 would implement a number of technologies at South Shore Water Reclamation Facility to achieve a total nitrogen limit in the South Shore Water Reclamation Facility effluent of 3 to 5 milligrams per liter. Nassau County initially considered, but ultimately dismissed, this alternative. The capital cost of advanced treatment technologies such as tertiary treatment at the South Shore Water Reclamation Facility would be over \$1 billion and incur extensive maintenance costs. These upgrades are cost and space prohibitive and would require far more complex process equipment than currently present. The additional complex process equipment would increase operations and maintenance costs including energy costs, chemical usage, and labor costs. Tertiary treatment would be far more expensive than the proposed Bay Park Conveyance Project. Nassau County determined this alternative to be technically infeasible, due to the lack of available land and high cost that would be needed to construct facilities required to achieve the nitrogen limit.

In addition, Nassau County has implemented Biological Nitrogen Removal Level 1 at the South Shore Water Reclamation Facility. Construction for Sidestream Deammonification is underway to further reduce nitrogen from the South Shore Water Reclamation Facility discharge. Together, these efforts yield an improvement, but are not enough to be a stand-alone solution.

### **Elimination of Alternative 5 (Upgrade the South Shore Water Reclamation Facility Outfall Alternative)**

Alternative 5 would upgrade the existing the South Shore Water Reclamation Facility outfall pipe. Nassau County initially considered, but ultimately dismissed, this alternative. Nassau County determined this alternative to be infeasible because it would not meet the project purpose and need of reducing damage from flooding and coastal storm surge through effective floodplain management to improve the resilience of the Western Bays.

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### Elimination of the No Action Alternative

As evaluated in the EA, under the No Action Alternative, no federal funds would be provided to reduce damages from flooding and coastal storm surge along the southern shore of Long Island. Nassau County and the City of Long Beach are assessing the feasibility of installing new sanitary sewer infrastructure connecting the hamlet of Point Lookout to the city of Long Beach sanitary sewer system to replace the use of cesspools and septic tanks for wastewater treatment. Nassau County and the City of Long Beach would convert the Long Beach Water Pollution Control Plant (WPCP) to a pump station, eliminating the discharge of treated water from the Long Beach WPCP to Reynolds Channel. The Long Beach pump station would send approximately three to five million gallons of wastewater per day, including the redirected wastewater from Point Lookout to the South Shore Water Reclamation Facility for treatment. Nassau County also plans to implement additional nutrient removal at the South Shore Water Reclamation Facility by capturing and treating water from sludge dewatering. Even with these improvements already funded, the No Action Alternative would not bring the South Shore Water Reclamation Facility into compliance with the 2020 Bay Park Agreement. Without the removal of the largest source of the nitrogen being discharged into the Western Bays, the saltmarshes would continue to degrade, leaving the inland areas of Nassau County at increased risk for coastal storm surge and wave damage.